

Enabling Technology for Small Satellite Launch, Phase I

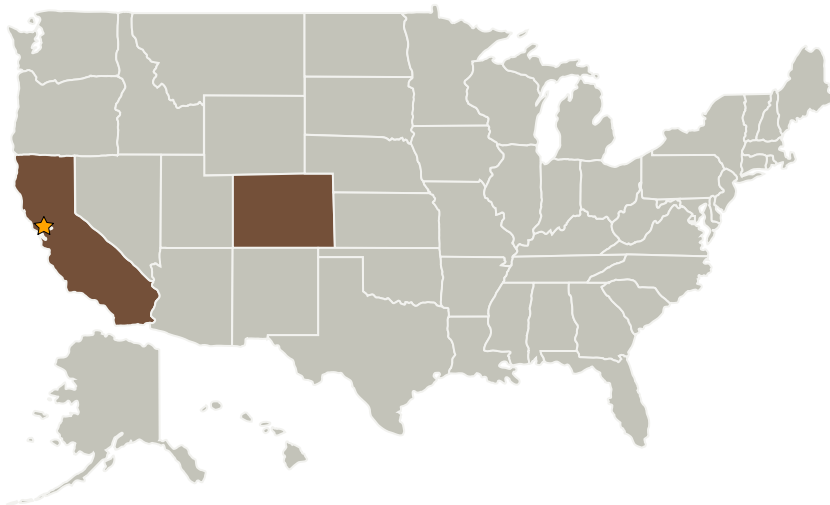
Completed Technology Project (2009 - 2009)



Project Introduction

Access to space for Small Satellites is enabled by the use of excess launch capacity on existing launch vehicles. A range of sizes, form factors and masses need to be accommodated. An integration process that minimizes programmatic/technical risk to the primary, allows "late flow" integration and predictable cost/schedule for the secondary enables regular and cost-effective access. The integration process proceeds smoothly when the right adapters accommodates the secondary in a seamless way. Design_Net has developed and flown a RideShare Adapter (RSA) for FALCON class vehicles that meets these requirements. We are currently working with United Launch Alliance (ULA) for a broader class of rideshare accommodations, upgrades to capability of the ESPA and development of interfaces that allow late access. Based on this experience Design_Net will continue, via this SBIR, to develop appropriate adapters for other types of secondary payloads on other launch vehicles. Phase 1 will see preliminary design of another adapter for intermediate size small sats (larger than "cubesats" but smaller than ESPA) for a selected launch vehicle. During Phase 2 we will develop and qualify the selected adapter design to TRL 8.

Primary U.S. Work Locations and Key Partners



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

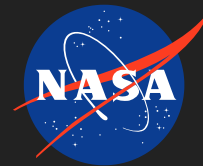
Lead Center / Facility:

Ames Research Center (ARC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
★ Ames Research Center(ARC)	Lead Organization	NASA Center	Moffett Field, California
Design_Net Engineering LLC	Supporting Organization	Industry	Golden, Colorado

Primary U.S. Work Locations

California	Colorado
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Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX01 Propulsion Systems
 - └ TX01.4 Advanced Propulsion
 - └ TX01.4.4 Other Advanced Propulsion Approaches